



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/783,762	02/20/2004	Saar Drimer	X-1500 US	7414
24309 7590 06/18/2008				
XILINX, INC				
ATTN: LEGAL DEPARTMENT				
2100 LOGIC DR				
SAN JOSE, CA 95124				
EXAMINER				
TSE, YOUNG TOI				
ART UNIT		PAPER NUMBER		
2611				
MAIL DATE		DELIVERY MODE		
06/18/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/783,762

Applicant(s)

DRIMER, SAAR

Examiner

YOUNG T. TSE

Art Unit

2611

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 March 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 2, 4-10, 12-20 and 22-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4-10, 12-20 and 22-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/08)
Paper No(s)/Mail Date 20080312
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see pages 10-11, filed March 12, 2008, with respect to 35 USC § 112, first paragraph have been fully considered and are persuasive. The rejection of claims 14-17 has been withdrawn.
2. Applicant's arguments filed March 12, 2008 have been fully considered but they are not persuasive.

Argument:

Applicant argues that the Lesea reference was issued after the filing date of the present application, therefore, Lesea may not be used to preclude patentability under 35 USC § 103(a), and the rejection of Claims 1-2, 4-10, 12, 20, and 22-36 should be withdrawn.

Response:

In order to overcome the rejection under 35 U.S.C. 103(a) of claims 1-2, 4-10, 12, 20, and 22-36, Applicant might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party

and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Argument:

Applicant further argues that the Wallace reference describes a generator circuit generating a sequence of random numbers, where a shift register circuit clocked by a system clock generates the sequence of random numbers. The numbers generated would only be a pseudo-random sequence of numbers that approximate the properties of random numbers. As one of skill in the art will readily appreciate, the sequence of pseudo-random numbers generated by the circuit in Wallace is not truly random in that it is completely determined by a relatively small set of initial values applied to the shift register circuit.

Claim 1 includes the features of a receiver to receive a signal, a recovery circuit to recover data, a controller to sufficiently stress the recovery circuit, and an extractor to define a random number. Claim 7 includes the features of a transceiver, a jitter performance tester, and an extractor circuit. Claim 20 includes the features of providing first data based on reference data, comparing the first data to the reference data and determining differences there between, counting the differences determined, sampling at least a portion of the counting over a duration, and defining the random number based on the sampling over the duration.

Art Unit: 2611

Response:

The examiner respectfully disagrees with Applicant's interpretation that the sequence of pseudo-random numbers generated by the circuit in Wallace is not truly random (emphasis added) in that it is completely determined by a relatively small set of initial values applied to the shift register circuit.

Although each independent claims 1 and 7 recites a true random number generator in the preamble, in the body of the claims 1 and 7, for example, claim 1 recites a true random number generator comprising an extractor to define a random number while claim 7 recites a true random number generator comprising an extraction circuit to obtain a random number sequence. Claim 20 recites a method of generating a random number comprising a step of defining the random number. In other words, no truly random number or sequence was recited in any of the independent claims 1, 7 and 20. Therefore, the Wallace reference describes a generator circuit generating a sequence of random numbers meets the claimed subject matter of independent claims 1, 7 and 20, including the dependent claims 2, 4-6, 8-10, 12, and 22-36.

Although the claims are interpreted in light of the specification, but not the measure of invention, limitations from the specification are not read into the claims for the purpose of avoiding the prior art. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-2, 4-10, 12-20 and 22-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lesea et al., U. S. Patent No. 7,218,670 (hereinafter "Lesea") in view of Wallace, U. S. Patent No. 5,633,816.

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Lesea discloses a communication system in Fig. 4 comprising a programmable logic device 450, an external clock source 438, a serial output 476, and a host programmer 490. Clearly the block elements within the programmable logic device 450, the external clock source 438, the serial output 476, and the host programmer 490 are identical to the block elements within the programmable logic device 350, the external clock source 338, the serial output 376, and the host programmer 390 of Figure 3 of the present invention as recited in claims 1-2, 4-10, 14-16, 20 and 22-36.

Regarding claims 1, 7, 12-13, and 17-20, Lesea fails to show or suggest that a RN generator 392 or a sampling circuit 394 is coupled to the counter 466 of the programmable logic device 450, for example, a sampler to sample at least a portion of the bits of the counter to define the random number as recited in claim 1; wherein the extraction circuit comprises a sampler to sample at least a portion of an output of the jitter performance tester as recited in claim 7; the extraction circuit to enable the sampler once every counter duration as recited in claim 12; the extraction circuit operable to control length of the durations as recited in claim 13; a RS-232 interface to sample at least a portion of the counter, with a sampling rate less than a data transfer rate of the transmitter as recited in claim 17; the extraction circuit is operable to define the random numbers based upon a number of bit differences determined by the comparator as recited in claim 18; the extraction circuit is operable to define the random numbers based upon the respective durations required to produce a predetermined number of difference counts as determined by the comparator and the counter as recited in claim 19; and the steps of sampling at least a portion of the counting over a

duration and defining the random number based on the sampling over the duration as recited in claim 20.

Wallace discloses a random number generator circuit 100 in Figure 2 which generates random numbers 104 to a processor 206 through a bus interface 202. Figure 3 shows a block diagram illustrating the bus interface circuit 202 of Figure 2. The detailed embodiment of the random number generator 100 is shown in Figure 1 which comprises a shift register (or counter) 101 to receive a feedback data b_r based on the timing of a system clock SYSCLK to generate the random numbers 104, and a summing circuit to add bits 3 and 15 of the shift register 101 to output the feedback data b_r . Wallace also teaches that a sampling circuitry provides a least a portion of shift register bits as one of the sequence of random numbers. Abstract and Col. 1, lines 57-59.

Therefore, it would have been obvious to one of ordinary skill in the art to include a sampling circuit or extraction circuit, for example, coupled to the output of Lesea's counter 366 as taught by Wallace in order to provide a portion of the counter bits to generate a portion of the random numbers over the durations of the system clock, as recited in claim 1, 7, 12-13, and 18-20.

Regarding claim 17, since the sampling circuitry generates a portion of the counter bits of the random numbers and the data transfer rate of the counter is the same as the data transfer rate of the transmitter, obviously sampling rate of the sampling circuitry is less than the data transfer rate of the transmitter.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YOUNG T. TSE whose telephone number is 571- 272-3051. The examiner can normally be reached on Monday-Friday 10:00-6:30 PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad H. Ghayour can be reached on 571- 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/YOUNG T. TSE/
Primary Examiner, Art Unit 2611